(No Model.)

W. H. DUNKERLEY.

SPINDLE AND BOLSTER.

No. 590,037. Patented Sept. 14, 1897.

Fig. 1

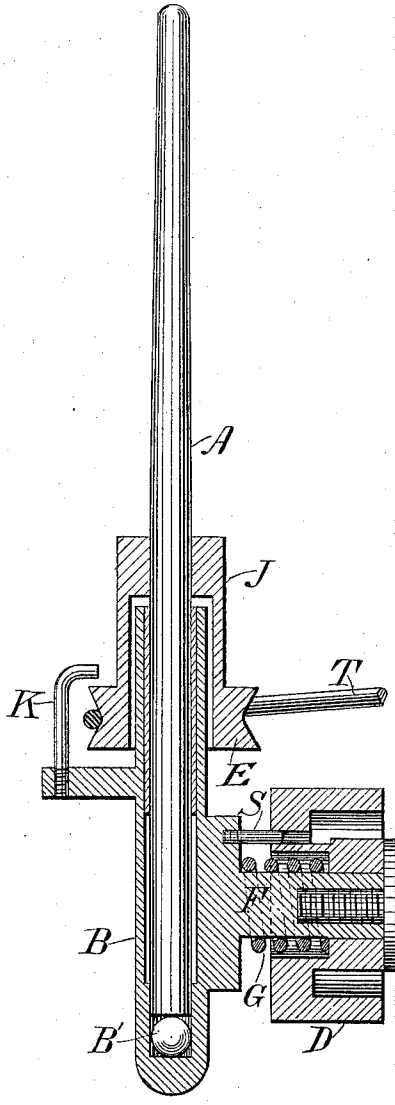
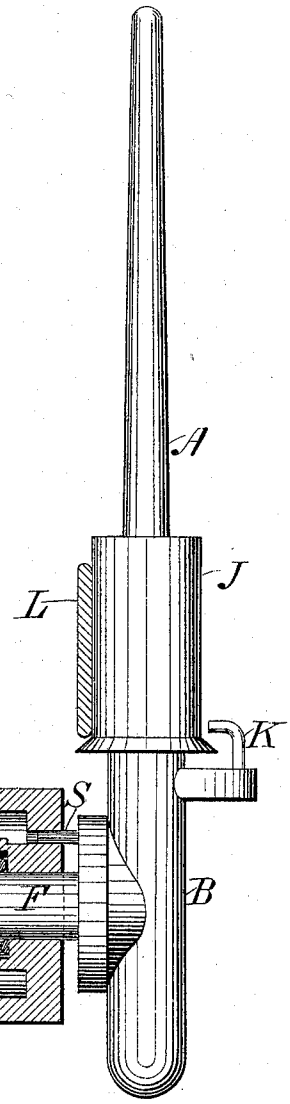


Fig. 2



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UNITED STATES PATENT OFFICE.

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SPINDLE AND BOLSTER.

SPECIFICATION forming part of Letters Patent No. 590,037, dated September 14, 1897.

Application filed December 10, 1895. Serial No. 571,644. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DUNKERLEY, of Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Spindles and Bolsters, of which the following is a specification.

The object of my invention is to provide a bearing in bolster for the spinning-spindle which shall be capable of being safely and continuously driven at a high speed and to provide for the contraction or expansion of the band or belt ordinarily used to drive spinning-spindles by employing a device that will compensate for such contraction or expansion.

The invention consists of a spindle and bolster provided with a ball-bearing, the bolster being provided with an angle-arm, by which it is secured to the side rail of the spinning-machine, and the employment of a spiral spring which surrounds said angle-arm and presses against the bolster, the tension of which spring may be regulated so as to compensate for the expansion or contraction of the band or belt which drives the spindles.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 represents my bolster, angle-arm, spindle, ball in the bottom of the bolster, and spiral spring surrounding the angle-arm and showing the method of securing the same to the frame-rail, the drawing being part sectional. Fig. 2 is a somewhat similar view, part sectional, the only difference being a modification showing the spiral spring which surrounds the angle-arm located in another position.

In the drawings, A is the spindle; B, the bolster; B′, the ball to serve as bearing for the spindle. C is a tubular bushing through which the spindle passes; D, the side rail of spinning-frame; E, the whirl or spindle; F, the angle-arm of bolster, which is secured to the spinning-frame by a screw-nut H, and G is the spiral spring surrounding the angle-arm F.

J is a long neck or whirl which is used when spindle is driven by the belt L.

My spindle, if desired, may be of the same size or circumference from the bottom, where it rests on the ball, to the portion near the top of the bushing C. I do not wish, however, in this application to confine myself to a spindle or to a bolster of any particular size or shape, nor do I wish to confine myself to the location of the spiral spring G at any particular place on the angle-arm F, the only claims which I make, and which will be more particularly pointed out hereinafter, are the use of a ball in the bolster as a bearing for the spindle and the bolster having angle-arm F, adapted to be secured to the spinning-frame, and the use of a spiral spring around said angle-arm adapted to permit the bolster to be regulated and to allow for the contraction or expansion of either the belt or band that drives the spindle.

I claim a great saving in bands or belts will be effected by my invention. I also claim that the speed will be greatly increased by the use of my ball-bearing.

The spring G in Fig. 1 is shown as surrounding the angle-arm F and entering a recess in the frame-rail with one end pressing against the face of the bolster.

In Fig. 2 the spring G is shown surrounding the angle-arm F, entering a recess in the rail, and with one end pressing against the washer on the screw H.

The spring may be arranged to accomplish the purpose in any desirable manner when either the belt L or the band T are being used to drive the spindle.

An ordinary securing-pin K prevents the spindle from rising out of the bolster and a pin S, secured to the face of the bolster, is adapted to enter an opening or recess made to receive it in the frame-rail to secure a steadiness of the spindle by preventing the bolster from moving laterally.

By the use of the ball B′, which is movable in the bottom of the bolster, being placed there loosely, the friction at the bottom of the spindle is reduced to the minimum.

Without further words in reference to the merits of my invention, which may be obvious, and with the above description, what I claim is—

In a spinning-machine, a supporting device for spindles, consisting of a bolster having an angle-arm near the bottom thereof, integral therewith and extending at right angles therefrom in combination with a spindle-rail of a

spinning-machine provided with an opening extending from one side to the other in which opening, said angle-arm is secured, a spiral spring coiled around said angle-arm between the bolster and the spindle-rail, the tension of which is adapted to compensate for the expansion or contraction of the band or belt which drives the spindle; a pin secured to the face of the bolster and projecting into a recess in the side of the frame-rail; said angle-arm being provided with a threaded hole in its end and a screw-bolt to screw into said threaded hole to secure the angle-arm in the spindle-rail substantially as shown and described and for the purposes specified.

WILLIAM H. DUNKERLEY.

Witnesses:
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